Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Claims 1-16 are amended.

Claims 17 and 18 are new.

Listing of Claims:

1. (Currently Amended) A key distribution method applied in the Next Generation Network comprising a terminal, a soft switch and an authentication center, comprising~~ steps of~~:

~~a)~~ the terminal sending a registration request message to the soft switch for a registration;

~~b)~~ the soft switch sending the authentication request message to the authentication center for the authentication for the terminal; and

~~c)~~ the authentication center authenticating the terminal, generating a session key for the terminal and the soft switch, and upon a successful registration authentication, sending the session key to the soft switch so as to be distributed to the terminal.

2. (Currently Amended) The key distribution method according to claim 1, wherein ~~in~~ the step ~~c),~~of the authentication center ~~authenticates~~authenticating the terminal ~~through~~comprises~~ steps of~~:

~~c1)~~ the authentication center generating a first verification word for the terminal according to a key Kc shared with the terminal, encrypting the session key with the shared key Kc, and returning the encrypted session key and the first verification word to the soft switch;

~~c2)~~ the soft switch returning a registration failure response message to the terminal to notify the terminal of a registration failure;

~~c3)~~ the terminal generating a second verification word according to the key Kc shared with the authentication center, and sending a registration message containing the second verification word to the soft switch for a registration again; and

~~c4)~~ the soft switch authenticating the terminal according to the first verification word and the second verification word.

3. (Currently Amended) The key distribution method according to claim 2, wherein ~~in~~ the step ~~e),~~of the soft switch ~~distributes~~distributing the session key to the terminal ~~through~~comprises ~~steps of~~:

~~e5)~~ the soft switch returning to the terminal a registration success response message containing the session key encrypted with the shared key Kc, and sending a terminal authentication success message to the authentication center; and

~~e6)~~ the terminal decrypting the session key encrypted by the authentication center according to the shared key Kc.

4. (Currently Amended) The key distribution method according to claim 3, wherein the method further comprises ~~steps of~~:

the terminal sending to the soft switch a list of security mechanisms supported by the terminal and priority information of each security mechanism;

the soft switch choosing an appropriate security mechanism for communication according to the list of security mechanisms and the priority information of each security mechanism of the terminal.

5. (Currently Amended) The key distribution method according to ~~any one of claims 1-4~~claim 1,

wherein the registration request message and the registration message are SIP protocol registration messages, the registration failure response message is a SIP protocol response message, and the registration success response message is a SIP protocol registration request success message~~.~~; or

wherein the registration request message is a system restart message and a corresponding response message in the MGCP protocol, the registration failure response message and the registration success response message are a notification request message and a corresponding response message in the MGCP protocol, and the registration message comprises a notification message and a corresponding response message in the MGCP protocol; or

wherein the registration request message comprises a system service status change message and a corresponding response message in the H.248 protocol, the registration failure response message and the registration success response message are an attribute modification message and a corresponding response message in the H.248 protocol, and the registration message comprises a notification message and a corresponding response message in the H.248 protocol; or

wherein the registration request message is a gatekeeper request message in the H.323 protocol, the registration failure response message is a gatekeeper rejection message in the H.323 protocol, the registration message is a registration request message in the H.323 protocol, and the registration success response message is a registration success message in the H.323 protocol.

6. (Currently Amended) The key distribution method according to ~~any one of claims 1-4,~~ claim 2,

wherein the registration request message and the registration message are SIP protocol registration messages, the registration failure response message is a SIP protocol response message, and the registration success response message is a SIP protocol registration request success message; or

wherein the registration request message is a system restart message and a corresponding response message in the MGCP protocol, the registration failure response message and the registration success response message are a notification request message and a corresponding response message in the MGCP protocol, and the registration message comprises a notification message and a corresponding response message in the MGCP protocol~~.~~; or

wherein the registration request message comprises a system service status change message and a corresponding response message in the H.248 protocol, the registration failure response message and the registration success response message are an attribute modification message and a corresponding response message in the H.248 protocol, and the registration message comprises a notification message and a corresponding response message in the H.248 protocol; or

wherein the registration request message is a gatekeeper request message in the H.323 protocol, the registration failure response message is a gatekeeper rejection message in the H.323 protocol, the registration message is a registration request message in the H.323 protocol, and the registration success response message is a registration success message in the H.323 protocol.

7. (Currently Amended) The key distribution method according to ~~any one of claims 1-4,~~ claim 3,

wherein the registration request message and the registration message are SIP protocol registration messages, the registration failure response message is a SIP protocol response message, and the registration success response message is a SIP protocol registration request success message; or

wherein the registration request message is a system restart message and a corresponding response message in the MGCP protocol, the registration failure response message and the registration success response message are a notification request message and a corresponding response message in the MGCP protocol, and the registration message comprises a notification message and a corresponding response message in the MGCP protocol; or

wherein the registration request message comprises a system service status change message and a corresponding response message in the H.248 protocol, the registration failure response message and the registration success response message are an attribute modification message and a corresponding response message in the H.248 protocol, and the registration message comprises a notification message and a corresponding response message in the H.248 protocol~~.~~; or

wherein the registration request message is a gatekeeper request message in the H.323 protocol, the registration failure response message is a gatekeeper rejection message in the H.323 protocol, the registration message is a registration request message in the H.323 protocol, and the registration success response message is a registration success message in the H.323 protocol.

8. (Currently Amended) The key distribution method according to ~~any one of claims 1-~~ claim 4,

wherein the registration request message and the registration message are SIP protocol registration messages, the registration failure response message is a SIP protocol response message, and the registration success response message is a SIP protocol registration request success message; or

wherein the registration request message is a system restart message and a corresponding response message in the MGCP protocol, the registration failure response message and the registration success response message are a notification request message and a corresponding response message in the MGCP protocol, and the registration message comprises a notification message and a corresponding response message in the MGCP protocol; or

wherein the registration request message comprises a system service status change message and a corresponding response message in the H.248 protocol, the registration failure response message and the registration success response message are an attribute modification message and a corresponding response message in the H.248 protocol, and the registration message comprises a notification message and a corresponding response message in the H.248 protocol; or

wherein the registration request message is a gatekeeper request message in the H.323 protocol, the registration failure response message is a gatekeeper rejection message in the H.323 protocol, the registration message is a registration request message in the H.323 protocol, and the registration success response message is a registration success message in the H.323 protocol.

9. (Currently Amended) A key distribution method applied in the Next Generation Network comprising a terminal, a signaling proxy, a soft switch and an authentication center, comprising ~~steps of~~:

~~a)~~ the terminal sending a registration request message through the signaling proxy to the soft switch for a registration;

~~b)~~ the soft switch sending the authentication request message to the authentication center for the authentication for the terminal; and

~~c)~~ the authentication center authenticating the terminal, generating a session key for the terminal and the signaling proxy, and upon a successful registration authentication, sending the session key to the soft switch so as to be distributed through the signaling proxy to the terminal.

10. (Currently Amended) The key distribution method according to claim 9, wherein ~~in~~ the step ~~c),~~of the authentication center ~~authenticates~~authenticating the terminal ~~through~~comprises~~ steps of~~:

~~c1)~~ the authentication center generating a first verification word for the terminal according to a key Kc shared with the terminal and a key Ksp shared with the signaling proxy, encrypting the session key respectively with the shared key Kc and the shared key Ksp, and returning the encrypted session key and the first verification word to the soft switch;

~~c2)~~ the soft switch returning a registration failure response message through the signaling proxy to the terminal to notify the terminal of a registration failure;

~~c3)~~ the terminal generating a second verification word according to the key Kc shared with the authentication center, and sending a registration message containing the second verification word to the signaling proxy to be forwarded to the soft switch for a registration again; and

~~c4)~~ the soft switch authenticating the terminal according to the first verification word and the second verification word.

11. (Currently Amended) The key distribution method according to claim 10, wherein ~~in~~ the step ~~c),~~of the soft switch ~~distributes~~distributing the session key to the terminal ~~through~~comprises ~~steps of~~:

~~c5)~~ the soft switch forwarding to the signaling proxy a terminal registration success response message containing the session key encrypted by the authentication center respectively with the shared keys Kc and Ksp, and the signaling proxy decrypting with the shared key Ksp the session key encrypted by the authentication center with the shared key Ksp, calculating a message verification word for the registration success response message with the decrypted session key, and forwarding to the terminal the registration success response message containing the message verification word and the session key encrypted with the shared key Kc; and

C6) the terminal decrypting the session key encrypted by the authentication center according to the shared key Kc, and authenticating with the decrypted session key the message authentication word of the message returned from the signaling proxy so as to authenticate an identity of the signaling proxy, an integrity of the message and whether security mechanism parameters of the terminal returned from the signaling proxy are correct.

12. (Currently Amended) The key distribution method according to claim 11, wherein the method further comprises~~ steps of~~: the terminal sending to the signaling proxy a list of security mechanisms supported by the terminal and priority information of each security mechanism, and the signaling proxy choosing an appropriate security mechanism for communication according to the security mechanisms supported by the terminal and the priority information of each security mechanism.

13. (Currently Amended) The key distribution method according to ~~any one of claims 9-12~~claim 9,

wherein the registration request message and the registration message are SIP protocol registration messages, the registration failure response message is a SIP protocol response message, and the registration success response message is a SIP protocol registration request success message~~.~~; or

wherein the registration request message comprises a system restart message and a corresponding response message in the MGCP protocol, the registration failure response message and the registration success response message are a notification request message and a corresponding response message in the MGCP protocol, and the registration message comprises a notification message and a corresponding response message in the MGCP protocol; or

wherein the registration request message comprises a system service status change message and a corresponding response message in the H.248 protocol, the registration failure response message and the registration success response message are an attribute modification message and a corresponding response message in the H.248 protocol, and the registration message comprises a notification message and a corresponding response message in the H.248 protocol; or

wherein the registration request message is a gatekeeper request message in the H.323 protocol, the registration failure response message is a gatekeeper rejection message in the H.323

protocol, the registration message is a registration request message in the H.323 protocol, and the registration success response message is a registration success message in the H.323 protocol.

14. (Currently Amended) The key distribution method according to ~~any one of claims 9-12,~~ claim 10,

wherein the registration request message and the registration message are SIP protocol registration messages, the registration failure response message is a SIP protocol response message, and the registration success response message is a SIP protocol registration request success message; or

wherein the registration request message comprises a system restart message and a corresponding response message in the MGCP protocol, the registration failure response message and the registration success response message are a notification request message and a corresponding response message in the MGCP protocol, and the registration message comprises a notification message and a corresponding response message in the MGCP protocol~~.~~; or

wherein the registration request message comprises a system service status change message and a corresponding response message in the H.248 protocol, the registration failure response message and the registration success response message are an attribute modification message and a corresponding response message in the H.248 protocol, and the registration message comprises a notification message and a corresponding response message in the H.248 protocol; or

wherein the registration request message is a gatekeeper request message in the H.323 protocol, the registration failure response message is a gatekeeper rejection message in the H.323 protocol, the registration message is a registration request message in the H.323 protocol, and the registration success response message is a registration success message in the H.323 protocol.

15. (Currently Amended) The key distribution method according to ~~any one of claims 9-12,~~ claim 11,

wherein the registration request message and the registration message are SIP protocol registration messages, the registration failure response message is a SIP protocol response message, and the registration success response message is a SIP protocol registration request success message; or

wherein the registration request message comprises a system restart message and a corresponding response message in the MGCP protocol, the registration failure response message and the registration success response message are a notification request message and a corresponding response message in the MGCP protocol, and the registration message comprises a notification message and a corresponding response message in the MGCP protocol; or

wherein the registration request message comprises a system service status change message and a corresponding response message in the H.248 protocol, the registration failure response message and the registration success response message are an attribute modification message and a corresponding response message in the H.248 protocol, and the registration message comprises a notification message and a corresponding response message in the H.248 protocol~~.~~; or

wherein the registration request message is a gatekeeper request message in the H.323 protocol, the registration failure response message is a gatekeeper rejection message in the H.323 protocol, the registration message is a registration request message in the H.323 protocol, and the registration success response message is a registration success message in the H.323 protocol.

16. (Currently Amended) The key distribution method according to ~~any one of claims 9~~ claim 12,

wherein the registration request message and the registration message are SIP protocol registration messages, the registration failure response message is a SIP protocol response message, and the registration success response message is a SIP protocol registration request success message; or

wherein the registration request message comprises a system restart message and a corresponding response message in the MGCP protocol, the registration failure response message and the registration success response message are a notification request message and a corresponding response message in the MGCP protocol, and the registration message comprises a notification message and a corresponding response message in the MGCP protocol; or

wherein the registration request message comprises a system service status change message and a corresponding response message in the H.248 protocol, the registration failure response message and the registration success response message are an attribute modification message and a corresponding response message in the H.248 protocol, and the registration message comprises a notification message and a corresponding response message in the H.248 protocol; or

wherein the registration request message is a gatekeeper request message in the H.323 protocol, the registration failure response message is a gatekeeper rejection message in the H.323 protocol, the registration message is a registration request message in the H.323 protocol, and the registration success response message is a registration success message in the H.323 protocol.

17. (New) A key distribution system applied in the Next Generation Network comprising:

a terminal adapted to send a registration request message for a registration;

a soft switch adapted to receive and forward the authentication request message sent from the terminal for the authentication for the terminal; and

an authentication center adapted to receive the authentication request message forwarded from the soft switch, to authenticate the terminal, to generate a session key for the terminal and the soft switch, and to send, upon a successful registration authentication, the session key to the soft switch so as to be distributed to the terminal.

18. (New) A key distribution system applied in the Next Generation Network comprising:

a terminal adapted to send a registration request message for a registration;

a signaling proxy adapted to enable the terminal to send the registration request message therethough;

a soft switch adapted to receive and forward the authentication request message sent from the terminal through the signaling proxy for the authentication for the terminal; and

an authentication center adapted to receive the authentication request message forwarded from the soft switch, to authenticate the terminal, to generate a session key for the terminal and the signaling proxy, and to send, upon a successful registration authentication, the session key to the soft switch so as to be distributed through the signaling proxy to the terminal.